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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,480	08/18/2003	Nobuyuki Enomoto	MA-582-US	3814

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EXAMINER	
TSEGAYE, SABA	
ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,480	ENOMOTO ET AL.	
	Examiner	Art Unit	
	SABA TSEGAYE	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-84* is/are pending in the application.

4a) Of the above claim(s) *4-10,15-30,34-40,45-57,60,63-71,79 and 84* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,11-14,31-33,41-44,58,59,61,62,72-78 and 80-83* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/6/05; 8/31/07; 2/8/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Election/Restriction filed 03/04/08. Claims 1-3, 11-14, 31-33, 41-44, 58-59, 61, 62, 72-78 and 80-83 are pending.

2. Applicant's election of Group I (claims 1-3, 11-14, 31-33, 41-44, 58-59, 61, 62, 72-78 and 80-83) in the reply filed on 03/04/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. Do to a typo error, in the Election/Restrictions mailed 02/05/08, claim 62 was not included in any of the groups. Therefore, Examiner would like to point out that claim 62 is now included in Group I.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 31-33, 41-44, 77, 82 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 77 recites "using a link free bandwidth to calculate a cost" which is a mathematical operation without being limited to a practical application.

Claims 31-33, 41-44, 82 are directed to a computer program per se and are non-statutory since it fails to fall within the four statutory classes.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 14, 81 and 82 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14, line 7, it is not clear whether "a root node" refers to the same root node cited in line 5.

Claim 81:

Line 4, it is not clear whether "a network" refers to the same network cited in line 2.

Lines 2-4, the phrase "…when changing the configuration of a network to which it belongs itself…" is vague. It is not clear what is referred by "…belongs itself."

Claim 82:

Line 3, it is not clear whether "a network" refers to the same network cited in line 2.

Lines 2-4, the phrase "…when changing the configuration of a network to which it belongs itself…" is vague. It is not clear what is referred by "…belongs itself."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 31, 32, 58, 72, 76 and 80-83 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al. (US 2004/0027995 A1).

Regarding claims 1, 31, 58, 72, 80 and 81, Miller discloses a node that configures a spanning tree over a network to which a plurality of nodes are connected (see fig. 3), comprising:

generating a new spanning tree after a network configuration change while continuing to operate the spanning tree that existed before the configuration change, and switching the spanning tree to be used for forwarding to the new spanning tree after the new spanning tree has been stable (0011; 0035; 0060).

Regarding claims 2 and 32, Miller discloses wherein the network configuration change is addition or remove of a node or a change in link topology (0011, 0014).

Regarding claim 76, Miller discloses a spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of:

creating a tree after a change using an n auxiliary system, when a network configuration has changed (0060).

Regarding claims 82 and 83, Miller disclose a program comprising a function of generating a logical topology after a network configuration change when changing the configuration of a network to which it belongs itself, with the signal transmission being performed using the logical topology in the network, and a function of switching , after the logical topology after the configuration change has been stable the logical topology to be used for signal transmission to the logical topology after the configuration change (0011, 0035, 0060).

9. Claims 14, 44, 62, 74, 75 and 78 are rejected under 35 U.S.C. 102(e) as being anticipated by Shah-Heydari (US 7,203,743 B2).

Regarding claims 14, 44, 62 and 78, Shah-Heydari discloses a node that configures a spanning tree over a network to which a plurality of nodes are connected comprising: generating a spanning tree in which each node in the network serves as a root node, and forwarding a frame using a spanning tree in which the destination serves as a root node (see figs. 5 and 9; column 1, lines 48-60).

Regarding claim 74, Shah-Heydari discloses a spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of:

making a new node participate in an auxiliary spanning tree only, not in an existing spanning tree when adding the new node (col. 9, lines 48-56).

Regarding claim 75, Shah-Heydari discloses a spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of:

making a removing node participate in an existing spanning tree only, not in an auxiliary spanning tree when removing the node (disconnecting a node for a spanning hierarchical tree by designating a backup parent of the disconnected node in the tree to be a primary parent..., col. 2, lines 16-22).

10. Claim 74 is rejected under 35 U.S.C. 102(b) as being anticipated by Bertin et al. (US 5,606,669).

Bertin discloses a spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of: making a new node participate in an auxiliary spanning tree only, not in an existing spanning tree when adding the new node (abstract; column 2, line 63-column 3, line 20 claims 1 and 6: step c).

11. Claim 77 is rejected under 35 U.S.C. 102(e) as being anticipated by Larsson et al. (US 2003/0161268).

Larsson discloses a spanning tree configuration method in a network to which pluralities of nodes are connected (see fig. 3), comprising the step of: using a link free bandwidth to calculate a cost (0024; 0026; 0029; 0148).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 3, 11-13, 33, 41-43, 59, 61, 73 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. in view of Sistanizadeh et al. (US 6,963,575 B1).

Regarding claims 3, 11, 33, 41, 59, 61 and 73, Miller discloses all the claim limitation as stated above. Further, Miller discloses that "router agree on a common criterion for measuring distance between nodes in the network. There may be multiple spanning trees" (0044). Miller, however, does not expressly disclose generating a new spanning tree at the time of a link cost change.

Sistanizadeh teaches that if Spanning-Tree Protocol **costs**/performance parameters change, the spanning-tree algorithm reconfigures the spanning-tree topology and reestablishes the link by activating the standby path (column 14, line 65-column 15 line 3).

It would have been obvious to one of ordinary skill in the art the time the invention was made to use a link cost, such as that suggested by Sistanizadeh, to the reconfiguration system of Miller in order to provide a flexible and an efficient system.

Regarding claims 12, 42 and 77, Miller discloses that "...the need for changing a topology arises from a number of conditions..." (0011). Further, Miller discloses that "...each router of network 100 has associated therewith a spanning tree, which lays out the **best path** according to some criterion..." (0044). However, Miller and Sistanizadeh do not expressly disclose that on of the criterion is a free bandwidth.

It would have been obvious to one of ordinary skill in the art the time the invention was made to use a free bandwidth as one of criterion. One would have been motivated to do this because it would make the system more accessible and flexible.

Regarding claims 13 and 43, Miller discloses wherein the availability status is defined as a CPU load (0044).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goldman et al. (US 2004/0062209 A1) discloses spanning tree recovery in machine network.

Chang et al. (US 6,674,558 B1) disclose high-speed optical communication system.

Ishii (US 2001/0021177 A1) disclose spanning tree bridge and rout change method using the same.

Demers et al. (US 6,105,018) discloses minimum leaf spanning tree.

Hart (US 4,811,337) discloses distributed load sharing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SABA TSEGAYE whose telephone number is (571)272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wing F. Chan/
Supervisory Patent Examiner, Art Unit 2619
4/14/08

Saba Tsegaye
Examiner
Art Unit 2619

/S. T./
April 11, 2008